Devil's Slide Tunnels Project

Construction & Project Overview

Project Location
The project is located just south of the City of Pacifica. From the bridges and north portal, the tunnels extend beneath San Pedro Mountain for 1250 meters (4200 feet) to the south portals. From the south portals, the roadway rejoins Route 1 over a distance of about 500 meters (1600 feet).

Project Elements
The Devil's Slide Tunnels consist of a separated two-lane road that passes over twin bridges and through twin tunnels to connect with the existing non-separated two lane road at each end. The length of the entire project is approximately 1900 meters, made up of five major project sections that are as follows, moving from north to south.

1. Twin bridges are 275 and 300 meters long respectively and span the Shamrock Ranch valley.
2. Twin tunnels are 1250 meters long
3. South rock cut soil nail wall
4. Operations and Maintenance Center (OMC) area
5. Offsite Mitigation

The horseshoe-shaped tunnels are 9 meters wide, 6.8 meters high and enlarged at the southern South Bound (SB) and northern North Bound (NB) portals; the SB and NB tunnels are approximately 18 meters apart. There are nine cross passages, an Emergency Vehicle Cross Passage and three equipment chambers with emergency accesses to the Main Tunnels. The tunnels are vented by jet fans and have lighting, fire protection, and operation and control systems.

Tunnel Characteristics
Each tunnel has a vertical clearance of 4.75 m and provides a single 3.6 meter wide traveled way, two shoulder areas (2.4 m and 0.6 m wide), and two 1.2 m wide sidewalks, for a total width of 9.0 m. The ventilation jet fans are placed in the crown of the tunnel and cross passages are provided every 120 m. The design and construction of the tunnels is based on the philosophy of the sequential excavation method, also called the New Austrian Tunneling Method (NATM). Depending on ground conditions along the alignment, the initial support system may include shotcrete, rock dowels, lattice girders, spiles, and grouted steel pipes in various combinations. The final lining is a cast-in-place reinforced concrete lining, with a waterproofing membrane and drainage system placed between the initial and final linings.

Timeline

WINTER - SPRING - SUMMER - FALL (TUNNEL MEASURES) FOR 5 YEARS

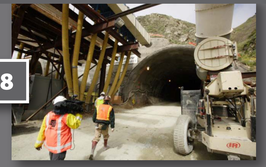
FALL 2005
South Rock Cut

WINTER 2006
Emergency Repair

SPRING 2007
South Portal
Retaining Walls

FALL 2007
Groundbreaking at South Portal

WINTER 2008



SPRING 2008
1000 Feet
1/4 Way Complete

FALL 2008
Bridge Completion

WINTER 2009
Over Halfway Complete

SPRING 2009
North Portal
Groundbreaking

SUMMER 2009
Begin
Final Lining

Inside the Tunnel

Road Header

Removing Muck

Lattice Girders Installation

Installing Rockbolts

Excavating Bench

Probedrilling

Caltrans
CT1901 District 4 Audio Visual Graphic Services 9/09